The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ANDREAS WINTER, WALTER SPALECK
and BERND BACHMANN

Appeal No. 2005-1211
Application No. 08/120,105

ON BRIEF

Before KIMLIN, OWENS and WALTZ, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 15, 17-19, 21-25 and 27-32. A copy of illustrative claim 17 is appended to this decision.

In the rejection of the appealed claims, the examiner does not cite prior art.

Appellants' claimed invention is directed to a process for preparing a polyolefin molding composition comprising at least

two polyolefinic components having melting points that differ by at least 5°C. The composition is characterized by a broad, bimodal or multimodal melting range in a DSC spectrum.

Appealed claims 15, 17-19, 21-25 and 27-32 stand rejected under 35 U.S.C. § 112, first paragraph. The appealed claims also stand rejected under 35 U.S.C. § 112, second paragraph.

In accordance with the grouping of claims set forth at page 5 of appellants' Brief, claims 15, 17-19, 21-25 and 27-31 stand or fall together. Claim 32 is grouped separately.

We have thoroughly reviewed the respective positions advanced by appellants and the examiner. In so doing, we concur with the examiner that the claimed subject matter runs afoul of the first and second paragraphs of 35 U.S.C. § 112. Accordingly, we will sustain the examiner's rejections.

We consider first the examiner's rejection of the appealed claims under § 112, first paragraph. At the outset, we do not subscribe to the examiner's reasoning that the claim 17 recitation "melting range in a DSC spectrum determined with a heating/cooling rate of 20°C/min" does not find descriptive support in the original specification. We agree with appellants that the specification disclosure at page 14,

lines 16-18, adequately describes the claim language. Also, the Ser van der Ven publication cited by appellants, particularly page 590, first full paragraph, provides evidence that one of ordinary skill in the art would have reasonably understood that the original specification reasonably conveys the claimed concept of determining the melting range in a DSC spectrum with the claimed heating/cooling protocol.

However, we agree with the examiner that the specification does not adequately describe (§ 112, first paragraph) and particularly point out (§ 112, second paragraph) the claimed "half-intensity width of the melting peak is broader than 10°C and the width determined at quarter peak height is greater than 15°C" with respect to the recited broad, bimodal, or multimodal melting range. We concur with the examiner that "[t]he specification never teaches what 'the peak' references in the melting ranges which are bimodal or polymodal, which by definition have more than one peak" (page 4 of Answer, second paragraph). Also, we agree with the examiner that "there is no teaching as to how half widths and quarter widths are determined for melting peaks which are not completely resolved" (id.). Furthermore, inasmuch as a bimodal or multimodal melting range would have more than one melting peak, the examiner properly

notes that "it is indefinite as to which peak either 'the peak' or 'the melting peak' refers" (page 4 of Answer, last paragraph). While appellants rely upon the cited ISO 3146 publication as evidence that one of ordinary skill in the art would understand the scope of the claimed subject matter, the examiner has accurately pointed out that the ISO publication is not describing a bimodal or multimodal composition. Neither appellants' specification, nor any reference cited by appellants, describes how one of ordinary skill in the art would determine the claimed half-intensity width of the melting peak and the quarter peak height. Appellants' analysis based on "logic" does not have the requisite factual support, such as, for example, a declaration by one of ordinary skill in the art.

As for the § 112, second paragraph rejection, it should be evident from our discussion above that we find that the appealed claims are indefinite in setting forth the metes and bounds of the subject matter within the scope of the appealed claims. Also, while we agree with the examiner that the claim language "the peak in the melting range has a maximum and can be bimodal or multimodal" is indefinite because bimodal and multimodal compositions admittedly contain more than one peak, we concur with appellants that the definitions of R^3 and R^4 reasonably

apprise one of ordinary skill in the art of the compounds associated with the claimed metallocenes of formula I.

In conclusion, based on the foregoing, the examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (effective Sep. 13, 2004; 69 Fed. Reg. 49960 (Aug. 12, 2004); 1286 Off. Gaz. Pat. Office 21 (Sep. 7, 2004)).

AFFIRMED

EDWARD C. KIMLIN)
Administrative Patent Judge)
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TERRY J. OWENS)
Administrative Patent Judge) BOARD OF PATENT
) APPEALS AND
) INTERFERENCES
)
THOMAS A. WALTZ)
Administrative Patent Judge)

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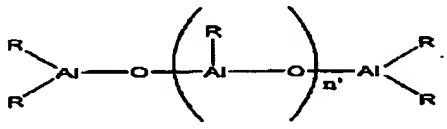
APPENDIX

17. A process for the preparation of a polyolefin molding composition comprising at least two polyolefinic components, wherein the composition is characterized by a broad, bimodal, or multimodal melting range in a DSC spectrum determined with a heating/cooling rate of 20°C/min wherein the peak in the melting range has a maximum and can be bimodal or multimodal and the maximum of the peak in the melting range is between 120 and 165°C, the half-intensity width of the melting peak is broader than 10°C and the width determined at quarter peak height is greater that 15°C, wherein such process comprises the direct polymerization of propylene or copolymerization of propylene with olefins of the formula $R^aCH=CHR^b$, in which R^a and R^b are identical or different and are a hydrogen atom or an alkyl radical having 2 to 14 carbon atoms wherein the polymerized ethylene content of the resulting polyolefin composition is from 0 to 2.5% by weight,

to at least two polyolefins of different melting points, wherein the melting points of the polyolefins must differ by at least 5°C, and wherein the polymerization is carried out at a temperature of from -60 to 200°C, and a pressure of

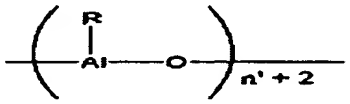
from 0.5 to 100 bar, in solution, in suspension or in the gas phase, in the presence of a catalyst, wherein the catalyst comprises

(A) at least two racemic or s-symmetric metallocenes as transition-metal components and an aluminoxane of the formula II



(II)

and/or of the formula III

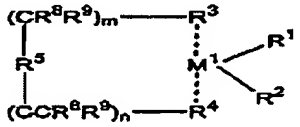


(III)

where in the formulae II and III, the radicals R may be identical or different are a C_1-C_6-alkyl group, a C_1-C_6-fluoroalkyl group, a C_6-C_{18}-aryl group, a C_6-C_{18}-fluoroaryl group or hydrogen, and n' is an integer from 0 to 50, and the aluminoxane component may additionally contain a compound of the formula AlR_3, or

(B) at least two racemic or s-symmetric metallocenes as transition-metal components and a salt-like compound of the formula R_xNH_{4-x} or of the formula $R_3PHBR'_4$ wherein x is 1, 2 or 3, R is identical or different and is alkyl or aryl, and R' is aryl, which may also be fluorinated or partly fluorinated,

where the transition-metal component used comprises at least two metallocenes of the formula I:



(I)

in which

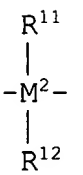
M^1 is Zr or Hf,

R^1 and R^2 are identical or different and are a hydrogen atom, a C_1-C_{10}-alkyl group, a C_1-C_{10}-alkoxy group, a C_6-C_{10}-aryl group, a C_6-C_{10}-aryloxy group, a C_2-C_{10}-alkenyl group, a C_7-C_{40}-arylalkyl group, a C_7-C_{40}-alkylaryl group, a C_8-C_{40}-arylalkenyl group, or a halogen atom,

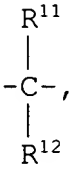
R^3 and R^4 are identical or different and are indenyl, cyclopentadienyl or fluorenyl which are optionally substituted with substituents as defined for R^{11} and R^{12}

and where the substituents are identical or different or form together with the atoms connecting them a ring,

R^5 is



or



where R^{11} and R^{12} are identical or different and are a hydrogen atom, a halogen atom, a C_1-C_{10}-alkyl group, a C_1-C_{10}-fluoroalkyl group, a C_6-C_{10}-aryl group, a C_6-C_{10}-fluoraryl group, a C_1-C_{10}-alkoxy group, a C_2-C_{10}-alkenyl group, a C_7-C_{40}-arylalkyl group, a C_8-C_{40}-arylalkenyl group or a C_7-C_{40}-alkylaryl group, or R^{11} and R^{12} together with the atoms connecting them, form a ring,

M^2 is silicon or germanium,

R^8 and R^9 are identical or different and are as defined for R^{11} and m and n are identical or different and are zero or 1 and wherein for at least one of the at least two metallocenes R^3 is a substituted indenyl or an optionally substituted fluorenyl.